REMARKS

Claim Status

Claims 1-8, 12-17, and 19-24 are pending in the application. Claims 9-11 and 18 have been cancelled without prejudice or disclaimer. Claim 1 has been amended. No new matter has been added.

Claims 1, 5, 7 and 8 are Allowable

The Office has rejected claims 1, 5, 7 and 8 on page 2 of the Office Action, under 35 U.S.C. §102(e), as being anticipated by U.S. Patent Publication No. 2005/0138670 ("Ploumen"). Applicant respectfully traverses the rejections.

The cited portions of Ploumen do not disclose or suggest the specific combination of claim 1. For example, the cited portions of Ploumen do not disclose or suggest communicating a combined Internet Protocol (IP) signal and an Asynchronous Transfer Mode (ATM) signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. Support for this claim amendment may be found in at least paragraph [0018] of the application.

In contrast to claim 1, the cited portions of Ploumen disclose an ATM/IP network from which data is obtained and transmitted on a 1490 nm band to the end user. *Ploumen*, paragraph [0018]. Digital video signals from a video head end are sent to a distribution device of the passive optical network (PON) and are subsequently multiplexed and sent to an optical network termination (ONT) module on a 1550 nm band where they are demultiplexed by a modulator. *Ploumen*, paragraphs [0022] and [0023]. A quadrature amplitude modulation (QAM) modulator, or a binary phase shift keying (BPSK) modulator or quadrature phase shift keying (QPSK) modulator in other embodiments, is present at the ONT to modulate the received digital video signals before being sent to a set-top box. *Ploumen*, paragraph [0037]. The data received from the ATM/IP network and sent to the personal computer over line 10/100 is not demodulated by the QAM modulator or any other modulator because the data received from the ATM/IP network

is not a combined IP signal and ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. The data received from the ATM/IP network can be data obtained from a packet switch suitable for mixed ATM and IP traffic, or may be from a media gateway and switching device connected with elements in the combined ATM network and IP network, and no disclosure or suggestion of a combined IP signal and ATM signal is present. The cited portions of Ploumen only disclose a mixed ATM/IP network. *Ploumen*, Fig. 4A. The QAM modulator demodulates only the digital video signals and does not demodulate data received from the ATM/IP network which is instead sent over line 10/100 to a personal computer and not over a coaxial cable to a set-top box. *Ploumen*, paragraph [0018]. The cited portions of Ploumen fail to disclose or suggest communicating a combined IP signal and ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1.

Therefore, the cited portions of Ploumen fail to disclose or suggest at least one element of claim 1. Hence, claim 1 is allowable. Claims 5, 7 and 8 depend from claim 1, which Applicant has shown to be allowable. Therefore, claims 5, 7 and 8 are allowable, at least by virtue of their dependency from claim 1. Further, the dependent claims recite additional features not found in the cited portions of Ploumen.

For example, the cited portions of Ploumen fail to disclose or suggest forming a combined ATM/IP signal by modulating a phase of the ATM signal based on the IP signal, as in claim 5. The cited portions of Ploumen disclose an ATM/IP network from which data is obtained and sent to a personal computer of the user that is not demodulated. *Ploumen*, paragraphs [0018] and [0037]. The ATM/IP network may include a packet switch suitable for mixed ATM and IP traffic, or may have a media gateway and switching device connected with elements in the combined ATM network and IP network, and no disclosure or suggestion of a combined IP signal and ATM signal is present. The ONT includes a wavelength division multiplexing filter to separate the data from the ATM/IP network and the digital video signal, and the ATM/IP network data is not demodulated which means that it is not a combined ATM/IP signal. *Ploumen*, paragraph [0036]. The digital video signal is modulated by a QAM modulator, or a BPSK or QPSK modulator in other embodiments, but the ATM/IP network data is not

modulated. *Ploumen*, paragraph [0037]. Modulation of digital video signals does not disclose or suggest forming a combined ATM/IP signal by modulating a phase of the ATM signal based on the IP signal, as in claim 5. For at least this additional reason, claim 5 is allowable.

Claim 15 is Allowable

The Office has rejected claim 15 on page 2 of the Office Action, under 35 U.S.C. §102(e), as being anticipated by Ploumen. Applicant respectfully traverses the rejection.

The cited portions of Ploumen do not disclose or suggest the specific combination of claim 15. For example, the cited portions of Ploumen do not disclose or suggest an optical line terminal (OLT) with a phase modulator configured to phase modulate an ATM signal based on an IP signal to produce a combined ATM/IP signal, as in claim 15.

In contrast to claim 15, the cited portions of Ploumen disclose a QAM modulator, or a BPSK modulator or QPSK modulator in other embodiments, at the ONT to modulate received digital video signals before being sent to a set-top box. *Ploumen*, paragraph [0037]. A QAM modulator is located in the OLT to modulate digital video signals that are subsequently sent to the ONT to be demodulated. *Ploumen*, paragraph [0039]. The data received from the ATM/IP network and sent to the personal computer over line 10/100 is not modulated by the QAM modulator or any other modulator because the data received from the ATM/IP network is not a combined ATM/IP signal. The data received from the ATM/IP network can be data obtained from a packet switch suitable for mixed ATM and IP traffic, or may be from a media gateway and switching device connected with elements in the combined ATM network and IP network, and no disclosure or suggestion of a combined ATM/IP signal is present. The QAM modulator demodulates only the digital video signals and does not demodulate data received from the ATM/IP network which is instead sent over line 10/100 to a personal computer and not over a coaxial cable to a set-top box. *Ploumen*, paragraph [0018]. The cited portions of Ploumen fail to disclose or suggest an OLT with a phase modulator configured to phase modulate an ATM signal based on an IP signal to produce a combined ATM/IP signal, as in claim 15.

Claim 6 is Allowable

The Office has rejected claim 6 on page 5 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen in view of U.S. Patent No. 6,870,836 ("Dyke"). Applicant respectfully traverses the rejection.

As previously stated, the cited portions of Ploumen do not disclose or suggest communicating a combined IP signal and an ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. The cited portions of Dyke fail to disclose or suggest the elements of claim 1 not disclosed or suggested by the cited portions of Ploumen.

Instead, the cited portions of Dyke disclose an optical transmission system to carry telecommunication signals over a PON in IP format without the necessity for IP to ATM adaptation, or the ATM transport protocol over the PON. *Dyke*, column 8, lines 54-59. The transport system is a point-to-multipoint optical transmission system which enables the transfer of IP traffic in its native format over the PON. *Dyke*, column 6, lines 38-40. Transport of IP traffic is not communicating a combined IP signal and an ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. Therefore, the cited portions of Ploumen and Dyke fail to disclose or suggest at least one element of claim 1, from which claim 6 depends. Hence, claim 6 is allowable.

Claim 12 is Allowable

The Office has rejected claim 12 on page 5 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen in view of Dyke. Applicant respectfully traverses the rejection.

The cited portions of Ploumen and Dyke do not disclose or suggest the specific combination of claim 12. For example, the cited portions of Ploumen and Dyke do not disclose

or suggest a phase demodulator adapted to phase demodulate a combined ATM/IP signal to extract an IP stream where the combined ATM/IP signal has been received and where the combined ATM/IP signal comprises an ATM signal that has been phase modulated based on an IP signal, as in claim 12.

In contrast to claim 12, the cited portions of Ploumen disclose a QAM modulator, or a BPSK modulator or QPSK modulator in other embodiments, at the ONT to modulate received digital video signals before being sent to a set-top box. *Ploumen*, paragraph [0037]. A QAM modulator is located in the OLT to modulate digital video signals that are subsequently sent to the ONT to be demodulated. *Ploumen*, paragraph [0039]. The data received from the ATM/IP network and sent to the personal computer over line 10/100 is not modulated by the QAM modulator or any other modulator because the data received from the ATM/IP network is not a combined ATM/IP signal. The data received from the ATM/IP network can be data obtained from a packet switch suitable for mixed ATM and IP traffic, or may be from a media gateway and switching device connected with elements in the combined ATM network and IP network, and no disclosure or suggestion of a combined ATM/IP signal is present. The QAM modulator demodulates only the digital video signals and does not demodulate data received from the ATM/IP network which is instead sent over line 10/100 to a personal computer and not over a coaxial cable to a set-top box. *Ploumen*, paragraph [0018]. The cited portions of Ploumen fail to disclose or suggest a phase demodulator adapted to phase demodulate a combined ATM/IP signal to extract an IP stream where the combined ATM/IP signal has been received and where the combined ATM/IP signal comprises an ATM signal that has been phase modulated based on an IP signal, as in claim 12.

In further contrast to claim 12, the cited portions of Dyke disclose an optical transmission system to carry telecommunication signals over a PON in IP format without the necessity for IP to ATM adaptation, or the ATM transport protocol over the PON. *Dyke*, column 8, lines 54-59. The transport system is a point-to-multipoint optical transmission system which enables the transfer of IP traffic in its native format over the PON. *Dyke*, column 6, lines 38-40. Transport of IP traffic is not a phase demodulator adapted to phase demodulate a combined ATM/IP signal to extract an IP stream where the combined ATM/IP signal has been received and where the

combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 12. Therefore, the cited portions of Ploumen and Dyke fail to disclose or suggest at least one element of claim 12. Hence, claim 12 is allowable.

Claims 19 and 22-24 are Allowable

The Office has rejected claims 19 and 22-24 on page 5 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen in view of Dyke. Applicant respectfully traverses the rejections.

The cited portions of Ploumen and Dyke do not disclose or suggest the specific combination of claim 19. For example, the cited portions of Ploumen and Dyke do not disclose or suggest extracting a first IP stream from a combined ATM/IP signal received at a first location, where the combined ATM/IP signal comprises an ATM signal that has been phase modulated based on an IP signal, as in claim 19.

In contrast to claim 19, the cited portions of Ploumen disclose a QAM modulator, or a BPSK modulator or QPSK modulator in other embodiments, at the ONT to modulate received digital video signals before being sent to a set-top box. *Ploumen*, paragraph [0037]. A QAM modulator is located in the OLT to modulate digital video signals that are subsequently sent to the ONT to be demodulated. *Ploumen*, paragraph [0039]. The data received from the ATM/IP network and sent to the personal computer over line 10/100 is not modulated by the QAM modulator or any other modulator because the data received from the ATM/IP network is not a combined ATM/IP signal. The data received from the ATM/IP network can be data obtained from a packet switch suitable for mixed ATM and IP traffic, or may be from a media gateway and switching device connected with elements in the combined ATM network and IP network, and no disclosure or suggestion of a combined ATM/IP signal is present. The QAM modulator demodulates only the digital video signals and does not demodulate data received from the ATM/IP network which is instead sent over line 10/100 to a personal computer and not over a coaxial cable to a set-top box. *Ploumen*, paragraph [0018]. The cited portions of Ploumen fail to disclose or suggest extracting a first IP stream from a combined ATM/IP signal received at a first

location, where the combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 19.

In further contrast to claim 19, the cited portions of Dyke disclose an optical transmission system to carry telecommunication signals over a PON in IP format without the necessity for IP to ATM adaptation, or the ATM transport protocol over the PON. *Dyke*, column 8, lines 54-59. The transport system is a point-to-multipoint optical transmission system which enables the transfer of IP traffic in its native format over the PON. *Dyke*, column 6, lines 38-40. Transport of IP traffic is not extracting a first IP stream from a combined ATM/IP signal received at a first location, where the combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 19.

Therefore, the cited portions of Ploumen and Dyke fail to disclose or suggest at least one element of claim 19. Hence, claim 19 is allowable. Claims 22-24 depend from claim 19, which Applicant has shown to be allowable. Therefore, claims 22-24 are allowable, at least by virtue of their dependency from claim 19. Further, the dependent claims recite additional features not disclosed or suggested in the cited portions of the above-cited references.

For example, the cited portions of Ploumen and Dyke fail to disclose or suggest extracting a second IP stream at a second location by phase demodulating the combined ATM/IP signal, as in claim 22. The cited portions of Ploumen disclose an ATM/IP network from which data is obtained and sent to a personal computer of the user that is not demodulated. *Ploumen*, paragraphs [0018] and [0037]. The ATM/IP network may include a packet switch suitable for mixed ATM and IP traffic, or may have a media gateway and switching device connected with elements in the combined ATM network and IP network, and no disclosure or suggestion of a combined ATM/IP signal is present. The ONT includes a wavelength division multiplexing filter to separate the data from the ATM/IP network and the digital video signal, and the ATM/IP network data is not demodulated which means that it is not a combined ATM/IP signal. *Ploumen*, paragraph [0036]. The digital video signal is modulated by a QAM modulator, or a BPSK or QPSK modulator in other embodiments, but the ATM/IP network data is not modulated. *Ploumen*, paragraph [0037]. Demodulation of digital video signals does not disclose

or suggest extracting a second IP stream at a second location by phase demodulating a combined ATM/IP signal, as in claim 22. In further contrast to claim 22, the cited portions of Dyke disclose an optical transmission system to carry telecommunication signals over a PON in IP format without the necessity for IP to ATM adaptation, or the ATM transport protocol over the PON. *Dyke*, column 8, lines 54-59. As a combined ATM/IP signal is not present, the cited portions of Dyke fail to disclose or suggest extracting a second IP stream at a second location by phase demodulating a combined ATM/IP signal, as in claim 22. For at least this additional reason, claim 22 is allowable.

Claim 2 is Allowable

The Office has rejected claim 2 on page 7 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen in view of U.S. Patent No. 3,701,106 ("Loshbough"). Applicant respectfully traverses the rejection.

As previously stated, the cited portions of Ploumen do not disclose or suggest communicating a combined IP signal and an ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. The cited portions of Loshbough fail to disclose or suggest the elements of claim 1 not disclosed or suggested by the cited portions of Ploumen.

Instead, the cited portions of Loshbough disclose a digital voltmeter for sensing changes in data to determine whether the change is within a tolerance limit and to determine whether the data within the tolerance limit remains therein for a specific period. *Loshbough*, Abstract. The cited portions of Loshbough do not disclose a combined IP signal and an ATM signal. Detection of data within a tolerance limit does not disclose or suggest communicating a combined IP signal and an ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. Therefore, the cited portions of Ploumen and Loshbough fail to disclose or suggest at least one element of claim 1, from which claim 2 depends. Hence, claim 2 is allowable.

Claim 16 is Allowable

The Office has rejected claim 16 on page 7 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen in view of Loshbough. Applicant respectfully traverses the rejection.

As previously stated, the cited portions of Ploumen do not disclose or suggest an OLT with a phase modulator configured to phase modulate an ATM signal based on an IP signal to produce a combined ATM/IP signal, as in claim 15. The cited portions of Loshbough fail to disclose or suggest the elements of claim 15 not disclosed or suggested by the cited portions of Ploumen.

Instead, the cited portions of Loshbough disclose a digital voltmeter for sensing changes in data to determine whether the change is within a tolerance limit and to determine whether the data within the tolerance limit remains therein for a specific period. *Loshbough*, Abstract. The cited portions of Loshbough do not disclose a phase modulator. Detection of data within a tolerance limit does not disclose or suggest an OLT with a phase modulator configured to phase modulate an ATM signal based on an IP signal to produce a combined ATM/IP signal, as in claim 15. Therefore, the cited portions of Ploumen and Loshbough fail to disclose or suggest at least one element of claim 15, from which claim 16 depends. Hence, claim 16 is allowable.

Claims 3 and 4 are Allowable

The Office has rejected claims 3 and 4 on page 8 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen in view of U.S. Patent No. 6,608,874 ("Beidas"). Applicant respectfully traverses the rejections.

As previously stated, the cited portions of Ploumen do not disclose or suggest communicating a combined IP signal and an ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. The cited portions of Beidas fail

to disclose or suggest the elements of claim 1 not disclosed or suggested by the cited portions of Ploumen.

Instead, the cited portions of Beidas disclose the transmission of modulated signals that include multiple pulses that interfere with one another in time or frequency such that two bits of information during a single signaling interval can be obtained. *Beidas*, column 1, lines 34-39; and column 2, lines 37-41. The cited portions of Beidas do not disclose an ATM signal, IP signal, or a combined IP signal and ATM signal. Transmission of modulated data does not disclose or suggest communicating a combined IP signal and an ATM signal via an optical medium, where the ATM signal is phase modulated based on the IP signal, as in claim 1. Therefore, the cited portions of Ploumen and Beidas fail to disclose or suggest at least one element of claim 1, from which claims 3 and 4 depend. Hence, claims 3 and 4 are allowable.

Claim 17 is Allowable

The Office has rejected claim 17 on page 8 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen in view of Beidas. Applicant respectfully traverses the rejection.

As previously stated, the cited portions of Ploumen do not disclose or suggest an OLT with a phase modulator configured to phase modulate an ATM signal based on an IP signal to produce a combined ATM/IP signal, as in claim 15. The cited portions of Beidas fail to disclose or suggest the elements of claim 15 not disclosed or suggested by the cited portions of Ploumen.

Instead, the cited portions of Beidas disclose the transmission of modulated signals that include multiple pulses that interfere with one another in time or frequency such that two bits of information during a single signaling interval can be obtained. *Beidas*, column 1, lines 34-39; and column 2, lines 37-41. The cited portions of Beidas do not disclose an ATM signal, IP signal, or a combined ATM/IP signal. Transmission of modulated data does not disclose or suggest a phase modulator configured to phase modulate an ATM signal based on an IP signal to produce a combined ATM/IP signal, as in claim 15. Therefore, the cited portions of Ploumen

and Beidas fail to disclose or suggest at least one element of claim 15, from which claim 17 depends. Hence, claim 17 is allowable.

Claims 13 and 14 are Allowable

The Office has rejected claims 13 and 14 on page 9 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Ploumen, in view of Dyke and further in view of Beidas. Applicant respectfully traverses the rejections.

As previously stated, the cited portions of Ploumen do not disclose or suggest a phase demodulator adapted to phase demodulate a combined ATM/IP signal to extract an IP stream where the combined ATM/IP signal has been received and where the combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 12. The cited portions of Dyke and Beidas fail to disclose or suggest the elements of claim 12 not disclosed or suggested by the cited portions of Ploumen.

Instead, the cited portions of Dyke disclose an optical transmission system to carry telecommunication signals over a PON in IP format without the necessity for IP to ATM adaptation, or the ATM transport protocol over the PON. *Dyke*, column 8, lines 54-59. The transport system is a point-to-multipoint optical transmission system which enables the transfer of IP traffic in its native format over the PON. *Dyke*, column 6, lines 38-40. Transport of IP traffic is not a phase demodulator adapted to phase demodulate a combined ATM/IP signal to extract an IP stream where the combined ATM/IP signal has been received and where the combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 12.

In further contrast to claim 12, the cited portions of Beidas disclose the transmission of modulated signals that include multiple pulses that interfere with one another in time or frequency such that two bits of information during a single signaling interval can be obtained. *Beidas*, column 1, lines 34-39; and column 2, lines 37-41. The cited portions of Beidas do not disclose an ATM signal, IP signal, or a combined ATM/IP signal. Transmission of modulated

data does not disclose or suggest a phase demodulator adapted to phase demodulate a combined ATM/IP signal to extract an IP stream where the combined ATM/IP signal has been received and where the combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 12. Therefore, the cited portions of Ploumen, Dyke and Beidas fail to disclose or suggest at least one element of claim 12, from which claims 13 and 14 depend. Hence, claims 13 and 14 are allowable.

Claims 20 and 21 are Allowable

The Office has rejected claims 20 and 21 on page 5 of the Office Action, under 35 U.S.C. §102(e), as being anticipated by Ploumen. Applicant respectfully traverses the rejection.

As previously stated, the cited portions of Ploumen do not disclose or suggest extracting a first IP stream from a combined ATM/IP signal received at a first location, where the combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 19. Therefore, the cited portions of Ploumen fail to disclose or suggest at least one elment of claim 19, from which claims 20 and 21 depend. Hence, claims 20 and 21 are allowable.

Also as previously stated, the cited portions of Ploumen and Dyke individually or in combination do not disclose or suggest extracting a first IP stream from a combined ATM/IP signal received at a first location, where the combined ATM/IP signal is an ATM signal that has been phase modulated based on an IP signal, as in claim 19. Therefore, the cited portions of Ploumen and Dyke, individually or in combination fail to disclose or suggest at least one element of claim 19, from which claims 20 and 21 depend. Hence, claims 20 and 21 are allowable for this additional reason.

CONCLUSION

Applicant has pointed out specific features of the claims not disclosed, suggested, or rendered obvious by the cited portions of the references applied in the Office Action. Accordingly, Applicant respectfully requests reconsideration and withdrawal of each of the objections and rejections, as well as an indication of the allowability of each of the pending claims.

Applicant believes there are other distinctions, not specifically pointed out in this response between the present disclosure, as claimed, and the cited references. No attempt, however, has been made to point out all differences between the claims and the cited references as the claims are believed to be allowable for the reasons discussed.

Any changes to the claims in this amendment, which have not been specifically noted to overcome a rejection based upon the cited art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

11-18-2008
Date

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